

Amendments To The Claims

The listing of claims will replace all prior versions, and listings, of the claims in the application.

Listing Of Claims:

Claims 1-91 (Cancelled)

Claim 92 (Previously presented) An exendin derivative having an amino acid sequence that differs from the amino acid sequence of exendin-3 or exendin-4 by the substitution of up to ten amino acid residues with any α -amino acid residue, wherein (a) one or two lipophilic substituents are attached to amino acid residues and (b) one of the lipophilic substituents is attached to an amino acid residue which is not the N-terminal or C-terminal amino acid residue.

Claim 93 (Previously presented) An exendin derivative of claim 92, having an amino acid sequence that differs from the amino acid sequence of exendin-3 or exendin-4 by the substitution of up to six amino acid residues with any α -amino acid residue.

Claim 94 (Previously presented) An exendin derivative of claim 93, wherein one lipophilic substituent is present.

Claim 95 (Previously presented) An exendin derivative of claim 93, wherein two lipophilic substituents are present.

Claim 96 (Previously presented) An exendin derivative of claim 94, wherein the lipophilic substituent has 4 to 40 carbon atoms.

Claim 97 (Previously presented) An exendin derivative of claim 96, wherein the lipophilic substituent has 8 to 25 carbon atoms.

Claim 98 (Previously presented) An exendin derivative of claim 96, wherein the lipophilic substituent is attached by means of a spacer.

Claim 99 (Previously presented) An exendin derivative of claim 98, wherein the spacer is an unbranched alkane α,ω -dicarboxylic acid group having from 1 to 7 methylene groups.

Claim 100 (Previously presented) An exendin derivative of claim 99, wherein the spacer is an unbranched alkane α,ω -dicarboxylic acid group having two methylene groups.

Claim 101 (Previously presented) An exendin derivative of claim 98, wherein the spacer is an amino acid residue except cys, or a dipeptide such as gly-lys.

Claim 102 (Previously presented) An exendin derivative of claim 96, wherein the lipophilic substituent is a partially or completely hydrogenated cyclopentanophenathrene skeleton.

Claim 103 (Previously presented) An exendin derivative of claim 96, wherein the lipophilic substituent is a straight-chain or branched alkyl group.

Claim 104 (Previously presented) An exendin derivative of claim 96, wherein the lipophilic substituent is a straight-chain or branched acyl group.

Claim 105 (Previously presented) An exendin derivative of claim 104, wherein the acyl group is of the formula $\text{CH}_3(\text{CH}_2)_n\text{CO}-$, wherein n is 4 to 38.

Claim 106 (Previously presented) An exendin derivative of claim 105, wherein the acyl group is $\text{CH}_3(\text{CH}_2)_6\text{CO}-$, $\text{CH}_3(\text{CH}_2)_8\text{CO}-$, $\text{CH}_3(\text{CH}_2)_{10}\text{CO}-$, $\text{CH}_3(\text{CH}_2)_{12}\text{CO}-$, $\text{CH}_3(\text{CH}_2)_{14}\text{CO}-$, $\text{CH}_3(\text{CH}_2)_{16}\text{CO}-$, $\text{CH}_3(\text{CH}_2)_{18}\text{CO}-$, $\text{CH}_3(\text{CH}_2)_{20}\text{CO}-$ or $\text{CH}_3(\text{CH}_2)_{22}\text{CO}-$.

Claim 107 (Previously presented) An exendin derivative of claim 96, wherein the lipophilic substituent is an acyl group of a straight-chain or branched alkane α,ω -dicarboxylic acid.

Claim 108 (Previously presented) An exendin derivative of claim 107, wherein the acyl group is of the formula $\text{HOOC}(\text{CH}_2)_m\text{CO}-$, wherein m is from 4 to 38.

Claim 109 (Previously presented) An exendin derivative of claim 108, wherein the acyl group is $\text{HOOC}(\text{CH}_2)_{14}\text{CO}-$, $\text{HOOC}(\text{CH}_2)_{16}\text{CO}-$, $\text{HOOC}(\text{CH}_2)_{18}\text{CO}-$, $\text{HOOC}(\text{CH}_2)_{20}\text{CO}-$ or $\text{HOOC}(\text{CH}_2)_{22}\text{CO}-$.

Claim 110 (Previously presented) An exendin derivative of claim 96, wherein the lipophilic substituent is a group of the formula $\text{CH}_3(\text{CH}_2)_p((\text{CH}_2)_q\text{COOH})\text{CHNH-CO}(\text{CH}_2)_2\text{CO}-$, wherein p and q are integers and p+q is an integer of from 8 to 33.

Claim 111 (Previously presented) An exendin derivative of claim 96, wherein the lipophilic substituent is a group of the formula $\text{CH}_3(\text{CH}_2)_r\text{CO-NHCH}(\text{COOH})(\text{CH}_2)_2\text{CO}-$, wherein r is an integer of from 10 to 24.

Claim 112 (Previously presented) An exendin derivative of claim 96, wherein the lipophilic substituent is a group of the formula $\text{CH}_3(\text{CH}_2)_s\text{CO-NHCH}((\text{CH}_2)_2\text{COOH})\text{CO-}$, wherein s is an integer of from 8 to 24.

Claim 113 (Previously presented) An exendin derivative of claim 96, wherein the lipophilic substituent is a group of the formula $-\text{NHCH}(\text{COOH})(\text{CH}_2)_4\text{NH-CO}(\text{CH}_2)_u\text{CH}_3$, wherein u is an integer of from 8 to 18.

Claim 114 (Previously presented) An exendin derivative of claim 96, wherein the lipophilic substituent is a group of the formula $-\text{NHCH}(\text{COOH})(\text{CH}_2)_4\text{NH-COCH}((\text{CH}_2)_2\text{COOH})\text{NH-CO}(\text{CH}_2)_w\text{CH}_3$, wherein w is an integer of from 10 to 16.

Claim 115 (Previously presented) An exendin derivative of claim 96, wherein the lipophilic substituent is a group of the formula $-\text{NHCH}(\text{COOH})(\text{CH}_2)_4\text{NH-CO}(\text{CH}_2)_2\text{CH}(\text{COOH})\text{NH-CO}(\text{CH}_2)_x\text{CH}_3$, wherein x is an integer of from 10 to 16.

Claim 116 (Previously presented) An exendin derivative of claim 96, wherein the lipophilic substituent is a group of the formula $-\text{NHCH}(\text{COOH})(\text{CH}_2)_4\text{NH-CO}(\text{CH}_2)_2\text{CH}(\text{COOH})\text{NH-CO}(\text{CH}_2)_y\text{CH}_3$, wherein y is zero or an integer of from 1 to 22.

Claim 117 (Previously presented) An exendin derivative of claim 97, having an amino acid sequence of HGE¹GT²SD³LSK⁴Q⁵M⁶E⁷E⁸E⁹AV¹⁰RL¹¹FI¹²EW¹³LK¹⁴NG¹⁵G¹⁶X, wherein X = P or Y, or a fragment or an analogue thereof.

Claim 118 (Previously presented) An exendin derivative of claim 97, having an amino acid sequence of HX¹IX²GT³FIT⁴SD⁵LSK⁶Q⁷M⁸E⁹E¹⁰AV¹¹RL¹²FI¹³EW¹⁴LK¹⁵NG¹⁶GP¹⁷SS¹⁸GAP¹⁹PP²⁰S, wherein X¹X² = SD or GE, or a fragment or an analogue thereof.

Claim 119 (Previously presented) An exendin derivative of claim 97, having an amino acid sequence of DLSKQ⁵M⁶E⁷E⁸E⁹AV¹⁰RL¹¹FI¹²EW¹³LK¹⁴NG¹⁵GP¹⁶SS¹⁷GAP¹⁸PP¹⁹S, or a fragment or an analogue thereof.

Claim 120 (Previously presented) An exendin derivative of claim 92, which is Arg¹⁸, Leu²⁰, Gln³⁴, Lys³³ (N^ε-(γ-aminobutyroyl(N^α-hexadecanoyl))) Exendin-4-(7-45)-NH₂.

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Claim 121 (Previously presented) An exendin derivative of claim 92, which is Arg³³, Leu²⁰, Gln³⁴, Lys¹⁸ (N^ε-(γ-aminobutyroyl(N^α-hexadecanoyl))) Exendin-4-(7-45)-NH₂.

Claim 122 (Previously presented) A pharmaceutical composition comprising an exendin derivative of claim 92 and a pharmaceutically acceptable vehicle or carrier.

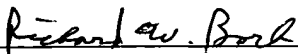
Claim 123 (Previously presented) A method of treating insulin dependent or non-insulin dependent diabetes mellitus in a patient in need of such a treatment, comprising administering to the patient a therapeutically effective amount of a exendin derivative of claim 92 and a pharmaceutically acceptable carrier.

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The Examiner is hereby invited to contact the undersigned by telephone if there are any questions concerning this response or application.

Respectfully submitted,

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